

REMARKS/ARGUMENTS

This Amendment is responsive to the Office Action mailed on June 30, 2008. Entry of this Amendment is requested.

Claims 1, 5-16, 18, 19, and 24-37 are pending in the present application. Claims 1, 5, 6, 15, and 29 have been amended. New claim 37 has been added. Support for the amendments and new claim can be found in FIGS 3-9 of the present application. No new matter has been added. Reconsideration of the rejected claims is respectfully requested.

I. Rejection under 35 U.S.C. §103

Claims 1, 5-16, 18, 19, and 24-36 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kim et al., "Combined Data-Driven and Event-driven Scheduling Technique for Fast Distributed Cosimulation" ("Kim") and Ghosh et al., "A Hardware-Software Co-simulator for Embedded System Design and Debugging" ("Ghosh"). Applicants respectfully submit that Kim does not disclose each element of these claims and that Ghosh does not make up for the deficiencies in Kim with respect to these claims.

A. variable synchronization parameter

Applicants' claim 1 as amended recites

receiving a variable synchronization parameter;
running the second software simulation system asynchronously with, and ahead of, the first software simulation system, wherein the second software simulation system advances at most by a number of processor clock cycles set in the variable synchronization parameter before the first software simulation advances by a clock cycle, the variable synchronization parameter limiting a maximum number of processor clock periods of the second simulation per period of a reference clock of the host machine;

Such limitations are not taught or suggested by Kim or Ghosh, individually or in combination.

The Examiner cites Section III, paragraph 4 of Kim for disclosing "In the centralized approach, the central controller manages the component simulators with the information on how far the local clock of the simulator can advance." However, "how far the local clock of the simulator can advance" merely describes the general concept that a central controller will control

the run time of the simulator. Kim is silent, *inter alia*, as to "the variable synchronization parameter limiting a maximum number of processor clock periods of the second simulation per period of a reference clock of the host machine." In fact, Kim specifically states "the local clock is apparently (while not actually) synchronized with the global clock." See paragraph 4 of Section IV, subsection A.

Ghosh does not teach or suggest the limitations that are missing from Kim, such that even assuming motivation to combine for sake of argument, a combination of Ghosh with Kim still would not teach or suggest such limitations of Applicants' claim 1.

B. inter-process communications protocol connection

Kim and Ghosh also do not teach or suggest, as recited in amended claim 1,

running a macro in the first software simulation system to set up an inter-process communications protocol connection therein, wherein the inter-process communications protocol connects to the second software simulation system;
controlling the first software simulation system using the second software simulation system that is running ahead of the first software simulation system, the socket allowing for communication between the second software simulation system and the first software simulation system;

Kim mentions "intersimulator communications" in the Abstract. However, Kim further writes that "[a]ll component simulators establish their outside connections only to the cosimulation backplane. The backplane is basically an event driven simulator and a centralized backbone for communication between component simulators" in the second paragraph of Section II. Kim does not teach or suggest connecting a second simulation system to a first simulation system. Kim uses a separate backplane to connect to, and control, the simulation systems. Likewise, Ghosh discloses a backplane "for different simulators to interact with one another". See page 157. Thus, Kim and Ghosh also do not teach or suggest, individually or in combination, these limitations as recited in Applicants' claim 1. For at least these reasons, Applicants' claim 1, and the claims that depend therefrom, cannot be rendered obvious by these references.

Applicants' claims 15 and 29 recite limitations that similarly are not taught or suggested by Kim and Ghosh, individually or in combination, for reasons including at least some of those

set forth above. As such, these claims, and the claims that depend therefrom, also cannot be rendered obvious by these references. Further, claim 15 also recites using a debugger of the software model for such control and validation. Claim 29 recites running an interactive program in the terminal emulator to interact with, and transfer information to, the input/output device model, and polling the input/output device model for the transferred information using the software model in order to validate a design of the system, using a similar synchronization and control approach. As referred to above, Kim and Ghosh disclose using a backplane for simulator control and intercommunications. Thus, neither Kim nor Ghosh would have a reason to use such limitations in the methods as claimed.

Applicants therefore respectfully request that the rejections with respect to these claims be withdrawn.

II. Amendment to the Claims

Unless otherwise specified or addressed in the remarks section, amendments to the claims are made for purposes of clarity, and are not intended to alter the scope of the claims or limit any equivalents thereof. The amendments are supported by the specification and do not add new matter.

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Amdt. dated October 28, 2008
Reply to Office Action of June 30, 2008

PATENT

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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